

REMARKS

Claims 1 and 3-45 are pending, with claims 1, 24, and 42 being independent. Claims 1, 13, 14, 18, 19, 21, 24, 26, 27, 31, 33, 34, 36-40, and 42 have been amended and claim 2 has been canceled (and is not listed in the recitation of rejected claims below). Support for the amendments can be found in the specification, at least at paragraphs 0003, 0022, 0026 and at Figs. 1-3. Claims 44 and 45 have been added. Support for the new claims can be found at least at paragraph 0020 and Fig. 5. No new matter has been added.

Drawings

The drawings have been objected to for allegedly not showing features in claims 13, 14, 33, and 34. Applicants request withdrawal of the objection to claims 13 and 33 because the "measuring device" and its components are shown in Fig. 3. In particular, paragraphs 0026-0027 describe that elements 67-69 are measuring devices that each include a signal matching circuit 70-72, a voltage/current converter 73-75, and an ohmic resistance 76-78, which are elements all shown in Fig. 3. Applicants request withdrawal of the objection to claims 14 and 34 because Fig. 3 also shows that the measuring signals of the current supply modules 60-62 are supplied to the control unit 79 of the current supply unit 63 in parallel.

Claim Objections

Claims 18 and 37 have been objected to for allegedly not providing sufficient antecedent basis for the term "the output side." Applicants request withdrawal of the objection to claim 18 because claim 18 has been amended to recite "an output side" as suggested by the Examiner. Applicants request withdrawal of the objection to claim 37 because claim 37 does not recite "the output side." Rather, original claim 37 recited "the input side," which is newly introduced in claim 37. Accordingly, applicants have amended claim 37 to recite "an input side."

Claims 20 and 38 have been objected to for allegedly not providing sufficient antecedent basis for the term "the input side." Applicants request withdrawal of the objection to claim 20 because claim 20 depends from claim 19, which newly introduces the term "input side."

Applicants request withdrawal of the objection to claim 38 because claim 38 depends from claim 37, which newly introduces the term "input side." Accordingly, antecedent basis is provided for "the input side" in claims 20 and 38.

Claim Rejections – 35 U.S.C. § 112

Claims 6-10, 13, 21, 23, 26-30, 33, 39, and 41 have been rejected for allegedly being indefinite. Applicants address each rejection below.

Claims 6-10 and 26-30:

Applicants request withdrawal of the rejection of claims 6-10 and 26-30 because one of ordinary skill in the art would understand the term "receives the control unit" to mean that the one current supply module physically receives the control unit because applicant explains at paragraph 0023 and Fig. 1 that each current supply module includes a receptacle into which a control unit may be plugged.

Claims 13 and 33:

Applicants request withdrawal of the rejection of claims 13 and 33 because applicants have amended these claims to recite "a resistor."

Claims 21 and 39:

Applicants request withdrawal of the rejection of claims 21 and 39 because applicants have amended these claims to recite that the common input electrical conductor "is identical in construction" to the common output electrical conductor.

Claims 23 and 41:

Applicants request withdrawal of the rejection of claims 23 and 41 because the meaning of the term "insulative distribution elements" would be clear to one of ordinary skill in the art to mean distribution elements made of insulating material because such distribution elements (made

of insulating material) are described in the specification, at least at paragraph 0033 in the description related to Fig. 5 and are shown in Fig. 5.

Claim Rejections – 35 U.S.C. § 102

Claims 1, 3-5, 11, 12, 14-16, 18-20, 23-25, 31, 32, 35, 37, 38, and 41-43 have been rejected as being allegedly anticipated by U.S. Publication No. 2003/0111909 (Liu). Applicants request withdrawal of this rejection for the following reasons.

Claims 1, 3-5, 11, 12, 14-16, 18-20, and 23:

Independent claim 1 recites a current supply system for a plasma gas discharge application. The current supply system includes a plurality of current supply modules, a control unit, and a data connection. Each current supply module includes an input terminal and an output terminal and each current supply module has a maximum output power. Multiple current supply modules are electrically combined to form a current supply unit having a maximum output power that is greater than the maximum output power of the individual current supply modules. The current supply unit output power is configured to supply a plasma load of a plasma gas discharge application. The control unit is connected to the current supply unit, and the data connection is for connecting the control unit to all the current supply modules of the current supply unit.

Applicants request withdrawal of the rejection of claim 1 because Liu fails to describe or suggest a current supply unit that has an output power that is greater than a maximum output power of individual current supply modules and that is configured to supply a plasma load of a plasma gas discharge application, as recited in independent claim 1.

Liu relates to a power supply system for processing circuit boards (loads) 104A-G of a computer system 102. See Liu at paragraphs 0038-0039 and Fig. 1. The power supply system includes power supply boards 212, 214 to power each load 104A-G. See Liu at paragraphs 0040 and 0045 and Fig. 4. As Liu explains, the power supply boards 212A, 212B for load 104A are redundant power supply boards in that the maximum output power to the load 104A cannot

exceed the total power required by the load 104A. See Liu at paragraphs 0040 and 0050.

However, while the combined output power of the power supply boards 212A, 212B is the total power required by the load 104A, the combined output power of the power supply boards 212A, 212B is not greater than the maximum output power of the individual power supply board 212A, 212B. Rather, the combined output power of the power supply boards 212A, 212B (that is, the power to the load 104A) is less than or equal to the maximum output power of the individual power supply boards 212A, 212B. Liu explains at paragraph 0050 that the "combined power delivery" is prevented "from exceeding 100% of the power required by the load or 100% of any one power supply's 212A, 214A capacity when the other power supply 212B, 214B is still operating." Additionally, the output power of the power supply boards 212A, 212B in Liu is not configured to supply a plasma load of a plasma gas discharge application. Rather, the output power of the power supply boards 212A, 212B in Liu is configured to supply loads in the form of processing circuit boards 104A-G.

For at least these reasons, claim 1 is allowable over Liu. Claims 3-5, 11, 12, 14-16, 18-20, and 23 depend from claim 1, and are allowable for at least the reasons that claim 1 is allowable.

Claims 24, 25, 31, 32, 35, 37, 38, and 41:

Independent claim 24 recites a current supply system for a plasma gas discharge application. The current supply system includes a plurality of substantially similar power converter modules, a control unit, a data connection, and an output electrical conductor. Each power converter module includes an input terminal and an output terminal, and each power converter module has a maximum output power that is substantially similar to the maximum output power of other power converter modules. Multiple power converter modules are combined to form a current supply unit having a maximum output power that is greater than the maximum output power of the individual power converter modules. The current supply unit output power is configured to supply a plasma load of a plasma gas discharge application. The control unit is connected to the current supply unit. The data connection connects the control

unit to all the power converter modules of the current supply unit. The output electrical conductor electrically connects the current power converter modules of the current supply unit at an output side, and electrically connects the output terminals of two neighboring power converter modules.

Applicants request withdrawal of the rejection of claim 24 because Liu fails to describe or suggest a current supply unit that has an output power that is greater than a maximum output power of individual power converter modules and that is configured to supply a plasma load of a plasma gas discharge application, as recited in independent claim 24. As discussed above, Liu's power system includes power supply boards 212A, 212B that supply loads in the form of processing circuit boards 104A-G and the output power of the power supply boards 212A, 212B is less than or equal to the maximum output power of the individual power supply boards 212A, 212B.

For at least these reasons, claim 24 is allowable over Liu. Claims 25, 31, 32, 35, 37, 38, and 41 depend from claim 24, and are allowable for at least the reasons that claim 24 is allowable.

Claims 42 and 43:

Independent claim 42 recites a method of providing an electrical current to a plasma gas discharge application. The method includes providing a plurality of current supply modules, and establishing an electrical connection between multiple current supply modules to form a current supply unit having a maximum output power that is greater than a maximum output power of the individual current supply modules. Each current supply module includes an input terminal and an output terminal. The method also includes controlling the current supply unit with a control unit, and controlling the current supplied by each current supply module through a data connection that connects the control unit to all the current supply modules of the current supply unit. The output power of the current supply unit is provided to a plasma load of a plasma gas discharge application.

Applicants request withdrawal of the rejection of claim 42 because Liu fails to describe or suggest providing an electrical current to a plasma gas discharge application including providing an output power of a current supply unit to a plasma load of a plasma gas discharge application, and a maximum output power of the current supply unit being greater than a maximum output power of individual current supply modules that form the current supply unit, as recited in independent claim 42. Rather, as discussed above, Liu's power system includes power supply boards 212A, 212B that provide current to supply loads in the form of processing circuit boards 104A-G, and the output power of the power supply boards 212A, 212B is less than or equal to the maximum output power of the individual power supply boards 212A, 212B.

Claim Rejections – 35 U.S.C. § 103

Claims 1 and 24:

Claims 1 and 24 have been rejected as being allegedly unpatentable over Liu in view of U.S. Patent No. 5,532,935 (Ninomiya). Applicants request withdrawal of this rejection because, as discussed above, Liu fails to describe or suggest at least a current supply unit that has an output power that is greater than a maximum output power of individual current supply modules (claim 1) or power converter modules (claim 24) that form the current supply unit, and a current supply unit that is configured to supply a plasma load of a plasma gas discharge application, as recited in independent claims 1 and 24, and because Ninomiya does not remedy Liu's failure to describe or suggest these features.

In Ninomiya, a power source 39 supplies a voltage to an inverter circuit 45, which supplies an increased voltage to a back light circuit 47 of a plasma display device. See Ninomiya at col. 3, lines 25-60. However, Ninomiya's power source 39 does not include individual current supply modules or individual power converter modules, as the Examiner acknowledges. Rather, the power source 39 includes a single DC/DC converter 81, as shown in Fig. 2. Moreover, Ninomiya's power source 39 is not configured to supply a plasma load of a plasma gas discharge application. Rather, Ninomiya's power source 39 is used to supply an inverter circuit 45 for a

plasma display device, and such a plasma display device is not a plasma load of a plasma gas discharge application.

Accordingly, any possible combination of Liu and Ninomiya would still fail to describe or suggest the features of claims 1 and 24. For at least these reasons, claims 1 and 24 are allowable over Liu and Ninomiya.

Claims 6-10 and 26-30:

Claims 6-10 and 26-30 have been rejected as being allegedly unpatentable over Liu in view of U.S. Patent No. 6,362,540 (Hill). Claims 6-10 and 26-30 depend, respectively, from claims 1 and 24, which were rejected as being anticipated by Liu. Hill does not remedy Liu's failure to describe or suggest a current supply unit that has an output power that is greater than a maximum output power of individual current supply modules (claim 1) or power converter modules (claim 24) that form the current supply unit, and a current supply unit that is configured to supply a plasma load of a plasma gas discharge application, as recited in independent claims 1 and 24.

In Hill, power blocks 22 supply a current to an electrical load 26. See Hill at abstract and Fig. 1. However, Hill never describes or suggests that the power blocks 22 are configured to supply a plasma load of a plasma gas discharge application, or that an output power to the electrical load 26 is greater than a maximum output power of each power block 22. Accordingly, claims 1 and 24 are allowable over any proper combination of Liu and Hill.

Claims 6-10 and 26-30 are allowable for at least the reasons that claims 1 and 24 are allowable. For example, claim 6 recites that each current supply module includes a receptacle for receiving the control unit. Neither Liu nor Hill describes or suggests such a receptacle. The office action points to element 608 of Liu as somehow showing such a receptacle, but also admits that Liu does not teach a control unit (that is, the MAPM 304) that is connected to only one module of each current supply unit. However, element 608 of Liu is a backplane connector and there is no description that it is a receptacle that receives the MAPM 304 (which the Office Action equates with the recited control unit).

Claims 13 and 33:

Claims 13 and 33 have been rejected as being allegedly unpatentable over Liu in view of U.S. Patent No. 6,166,455 (Li). Claims 13 and 33 depend, respectively, from claims 1 and 24, which were rejected as being anticipated by Liu. Li does not remedy Liu's failure to describe or suggest a current supply unit that has an output power that is greater than a maximum output power of individual current supply modules (claim 1) or power converter modules (claim 24) that form the current supply unit, and a current supply unit that is configured to supply a plasma load of a plasma gas discharge application, as recited in independent claims 1 and 24.

In Li, a power supply includes a plurality of separable power supply modules 100, 100' coupled together to supply current to a load 136. See Li at abstract and Fig. 1. However, Li never describes or suggests that the power supply modules 100, 100' are configured to supply a plasma load of a plasma gas discharge application, or that an output power to the load 136 is greater than a maximum output power of each power supply module 100, 100'.

Accordingly, claims 1 and 24 are allowable over any proper combination of Liu and Li. Claims 13 and 33 are allowable for at least the reasons that claims 1 and 24 are allowable.

Claims 17 and 36:

Claims 17 and 36 have been rejected as being allegedly unpatentable over Liu in view of U.S. Patent No. 5,675,480 (Stanford). Claims 17 and 36 depend, respectively, from claims 1 and 24, which were rejected as being anticipated by Liu. Stanford does not remedy Liu's failure to describe or suggest a current supply unit that has an output power that is greater than a maximum output power of individual current supply modules (claim 1) or power converter modules (claim 24) that form the current supply unit, and a current supply unit that is configured to supply a plasma load of a plasma gas discharge application, as recited in independent claims 1 and 24.

In Stanford, a power supply includes power supply modules 162 that drive a supply bus 75 in parallel. See Stanford at col. 6, lines 26-58 and Fig. 6. However, Stanford never describes or suggests that the power supply modules 162 are configured to supply a plasma load of a

plasma gas discharge application, or that an output power to the bus 75 is greater than a maximum output power of each power supply module 162.

Accordingly, claims 1 and 24 are allowable over any proper combination of Liu and Stanford. Claims 17 and 36 are allowable for at least the reasons that claims 1 and 24 are allowable.

Claims 22 and 40:

Claims 22 and 40 have been rejected as being allegedly unpatentable over Liu in view of U.S. Patent No. 7,061,139 (Young). Claims 22 and 40 depend, respectively, from claims 1 and 24, which were rejected as being anticipated by Liu. Young does not remedy Liu's failure to describe or suggest a current supply unit that has an output power that is greater than a maximum output power of individual current supply modules (claim 1) or power converter modules (claim 24) that form the current supply unit, and a current supply unit that is configured to supply a plasma load of a plasma gas discharge application, as recited in independent claims 1 and 24. In Young, a power system 8 supplies a three phase power to a critical load 14 such as a computer, a controller for a computer, or an electronic data processing device. See Young at col. 5, lines 20-38 and Fig. 3. However, Young never describes or suggests that the power system 8 includes power supply modules that are configured to supply a plasma load of a plasma gas discharge application.

Accordingly, claims 1 and 24 are allowable over any proper combination of Liu and Young. Claims 22 and 40 are allowable for at least the reasons that claims 1 and 24 are allowable.

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Serial No. : 10/743,345
Filed : December 23, 2003
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Attorney's Docket No.: 15540-019001 / 25951;
Trumpf: 18.00381; DS08541

Conclusion

Applicants submit that all claims are in condition for allowance, and respectfully requests a notice to that effect. The fee for \$50.00 for the additional claim is being paid for concurrently through the EFS Electronic Filing System. Please apply all charges or credits to deposit account 06-1050, referencing Attorney Docket No. 15540-019001.

Respectfully submitted,

Date: December 22, 2006

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